

# NASA TECH BRIEF

## Langley Research Center



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### New Meter Probes Provide Protection From High Current Power Sources at Potentials Up to 600 Volts

#### The problem:

If a faulty test instrument or improper operational procedure is used in testing high current power sources, the test instrumentation can draw an ex-

#### The solution:

Use meter probes which incorporate fuses with an interruption rating that is high enough to open the meter circuit prior to ionization and before the short-circuit condition can occur.

#### How it's done:

The meter probes incorporate an integral fuse-holder which contains a limitation fuse of 600 V, 5A, with an interruption rating of 50,000 kVA. An analysis of test data on this probe indicates that it provides the required protection and minimizes the danger incurred by a defective or improperly operated meter. Meter accuracy is unaffected within the normal range of the instrument, but a current range of over 5 A is not usable.

#### Note:

No additional documentation is available. Specific questions, however, may be directed to:

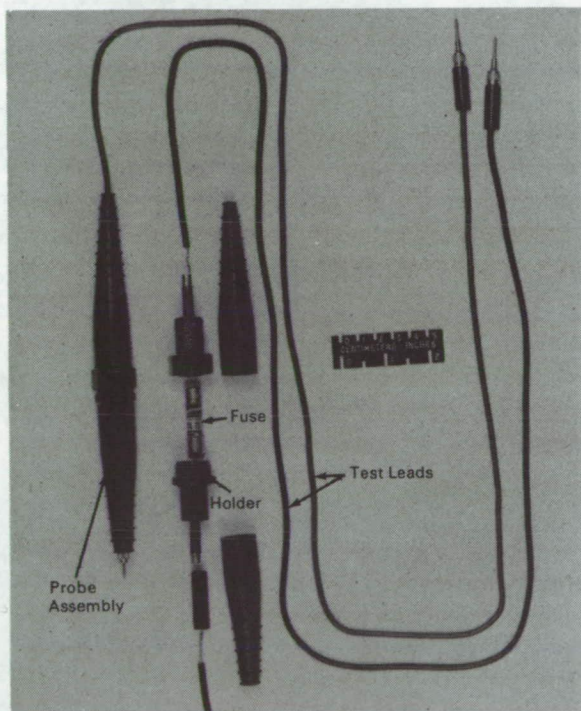
Technology Utilization Officer  
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Reference: B72-10455

#### Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to:

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Category 01



remely high current, resulting in an arc across the test lead tips. This arc can initiate ionization which can short-circuit the power source; the short-circuit can become self-propagating; and the high current can severely burn operating personnel. Though fuses are used on some conventional multimeters, they do not have the interruption rating required to limit the short-circuit current from the power source when high current is involved.